

**Remarks/Arguments:**

In response to the Appeal Brief filed November 12, 2003, the Examiner has now issued a new non-final Office Action. In the Office Action, the Examiner allowed pending Claims 1, 3-5, and 9 and rejected pending Claims 6-8. Applicant respectfully traverses the rejections.

**Rejection of Claim 6 under 35 USC 112:**

The Examiner rejected claim 6 under 35 USC 112, first paragraph, asserting that there is no support in the specification for applying hyaluronidase from *Streptomyces hyalurolyticus* to the eye in order to prepare contact lenses. Applicant asserts that Claim 6 as amended above overcomes the 112 rejection. Claim 6 is now clearly directed to applying a mixture including protease-free hyaluronidase from *Streptomyces hyalurolyticus* to a collagen-containing membrane to produce a contact lens as disclosed in the specification. Dependant claims 10 and 11 have been added to more distinctly claim the relevant subject matter. Accordingly, Applicant respectfully requests that the rejection of Claim 6 be withdrawn.

**Rejection of Claims 7 and 8 under 35 USC 103(a):**

The Examiner rejected claim 7 under 35 USC 103(a) as being unpatentable over Knepper et al. in view of Kaneko et al. Knepper discloses infusing hyaluronidase derived from *Streptomyces hyalurolyticus* into the mammalian eye to reduce aqueous outflow resistance. Kaneko simply discloses the process of purifying hyaluronidase from *Streptomyces hyalurolyticus*. The Examiner asserts that because Knepper discloses using *Streptomyces*-derived hyaluronidase to reduce aqueous outflow resistance and Kaneko discloses *Streptomyces*-derived hyaluronidase, then it would be obvious to use

Streptomyces-derived hyaluronidase to generally stimulate the flow of physiological fluids in the eye. Applicant respectfully disagrees with this assertion.

The Examiner sets forth no link between decreasing aqueous outflow resistance, which is a specific eye problem, and general stimulation of flow of physiological fluids in the eye. Knepper alone nor in combination with Kaneko in no way suggests using Streptomyces-derived hyaluronidase to generally stimulate the flow of physiological fluids in the eye. Aqueous outflow does not refer to the general flow of all fluids in the eye as suggested by the Examiner. The eye has an aqueous outflow pathway that serves to drain the eye. *Fini, M. Elizabeth,*

[www.bpei.med.miami.edu/site/current/researchbio.asp?bio-fini](http://www.bpei.med.miami.edu/site/current/researchbio.asp?bio-fini), p.1. Aqueous outflow resistance occurs when that aqueous outflow pathway fails to drain properly, thereby leading to increased intraocular pressure. *Fini, p. 1.* After much research, those skilled in the art still do not know the cause of the majority of aqueous humor outflow resistance. *Johnson, Mark, Aqueous Humor Outflow Resistance (Iser Debate),* [www.glaucom.com/meetings/4-3/iser.htm](http://www.glaucom.com/meetings/4-3/iser.htm). Since those skilled in the art do not know why aqueous outflow resistance occurs, one cannot know how Streptomyces hyaluronidase reverses this resistance, and we cannot assume that just because Streptomyces hyaluronidase decreases aqueous outflow resistance that it stimulates flow of all fluids in the eye.

Knepper et al. only teaches that application of hyaluronidase derived from Streptomyces to a mammalian eye is possible, but does not expressly teach benefits or uses of such application. Kaneko does not provide the teaching of Streptomyces-derived hyaluronidase to stimulate the flow of physiological fluids in the eye, but instead merely

discloses a method of producing hyaluronidase from Streptomyces. Accordingly, Kaneko does not provide the shortcomings of Knepper, and the combined references do not render obvious the use of Streptomyces-derived hyaluronidase to stimulate the flow of fluid in the eye. Applicant requests that the rejection of Claim 7 be withdrawn.

The Examiner rejected Claim 8, under 35 USC 103(a) as being unpatentable over Knepper et al. and Kaneko et al. in view of Sawyer et al. The Examiner asserts Knepper and Kaneko teach stimulating flow of physiological fluid in the eye while Sawyer teaches using hyaluronidase for stimulating flow of physiological fluid in the eye for treatment of glaucoma and other eye disorders for which improved physiological flow of fluids would be useful. Applicant respectfully disagrees with this assertion.

As discussed above in relation to claim 7, Knepper and Kaneko do not disclose or suggest using Streptomyces-derived hyaluronidase to stimulate flow of physiological fluid in the eye. The above arguments apply here to claim 8 as well. While Sawyer does teach the use a hyaluronidase to treat glaucoma and other eye disorders in which some improvement of circulation of physiological fluids in or about the eye would be useful, the hyaluronidase used is a very specific hyaluronidase, namely a hyaluronic acid-specific endo-B-glucuronidase derived from buffalo leeches. Applicant asserts that Sawyer actually teaches away from the present invention because while Sawyer mentions that hyaluronidase can be derived from Streptomyces, he goes on to emphasize that leech derived hyaluronidase has different characteristics from other non-leech derived hyaluronidases, and further that buffalo leech derived hyaluonidase has different characteristics from other leech derived hyaluronidases. Given Sawyer's emphasis on the unique applications of buffalo leech derived hyaluronidase, it clearly was not suggested

by Sawyer at the time of his invention that Streptomyces derived hyaluronidase could be used to stimulate flow of physiological fluids in the eye to treat glaucoma and other eye disorders.

Further, neither Knepper nor Kaneko suggest that Streptomyces-derived hyaluronidase would have characteristics similar to the hyaluronidase used in Sawyer. In fact, at column 5, line 72 through column 6, line 33, Kaneko supports Sawyer's assertion that hyaluronidases derived from different sources have very different characteristics. Based on the above facts, Applicant asserts that Claim 8 of the present invention is not obvious in view of Knepper et al., Kaneko et al., Sawyer et al. and respectfully requests that the rejection of Claim 8 be withdrawn.

#### CONCLUSION

In view of the above amendments and remarks, Applicant believes that claims 1 and 3-11 are in condition for allowance. Accordingly, Applicant respectfully requests that the rejection of claims 6-8 be withdrawn.

Respectfully submitted,

Date: May 3, 2004

By: Kimberly O. Snead  
Kimberly O. Snead  
Reg. No. 45,119

Parker & DeStefano  
300 Preston Avenue, Suite 300  
Charlottesville, VA 22903  
Telephone: 434-817-6606  
Facsimile: 434-817-6610